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| | | | YAARY, MICHAEL D | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | |
|------------------------------|------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/685,539 | MAEDA ET AL. |
| | Examiner | Art Unit |
| | Michael Yaary | 2193 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 16 October 2003.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-15 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-15 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 16 October 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>10/16/2003 and 02/14/2005</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

1. Claims 1-15 are pending in the application.
2. The title is not descriptive, a new title is required that is clearly indicative of the invention to which the claims are directed. The current title is imprecise as it fails to disclose what is being updated.

Specification

3. The abstract of the disclosure is objected to because it exceeds maximum limit of 150 words. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as the claims vague and indefinite as to the claimed subject matter.
 - (i) **As to claims 1**(lines 5, and 17-23), **13** (lines 7, and 13-20), and **15** (15-22), the claims are indefinite, as the limitations seem redundant to the fact of updating location information of post file content. First the location referencing the data constituting post file content is updated on the first recording medium. Next, the same location update appears to be repeated again as it is unclear as to where and why the storage location of the post update file is updated for a second time, thus making the claims indefinite.

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(ii) **As to claim 1** (lines 4-5), it is unclear what type of update is taking place. It is indefinite as to whether the file is being updated, as in copied, or whether part of the file is being updated with new data.

(iii) **As to claim 15** (lines 1-4), it is also not clearly indicated as to whether the claim is directed to a method, apparatus, or computer program. An example of an appropriate correction would be, "A computer program stored in a computer storage media, wherein the computer program when executed by a CPU..."

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 2, 4, 5, 11, and 13-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Howard (US Pub. 2002/0078244).

Howard was cited in the IDS filed on 2/14/2005

7. **Regarding claim 1**, Howard discloses a file-update apparatus which is able to mount a removable first recording medium storing location information showing a storage location, on the first recording medium, of data constituting a content of a file ([0029], lines 3-10) , and which executes a plurality of update procedures to update the file (0006], lines 6-10), comprising:

A second recording medium ([0039], lines 7-9);

A progress recording unit operable to record, onto the second recording medium, progress information showing which of the update procedures have been executed in updating the file ([0057], lines 1-8 disclose the process including detecting when an update to a file occurs, thus indicating the progress information of the procedures executed.);

A new-data recording unit operable to record, onto the first recording medium, data constituting a content of the file after updating, in a different storage location from the data constituting the content of the file before updating ([0057], lines 1-3);

An update information recording unit operable to record, onto the second recording medium, update information showing the storage location, on the first recording medium, of the data constituting the post-update file content ([0071], lines 1-3); and

An updating unit operable, after the update information has been recorded, to update the location information based on the update information, so as to show the storage location of the data constituting the post-update file content ([0071], lines 3-5). (Each unit is interpreted as being integrated as part of the update apparatus as whole, and not as separately distinct components or units for performing each function. Thus, the system shown in Howard is interpreted as including all the separate units as claimed, even though they are not physically separate units.)

8. **Regarding claim 13,** Howard discloses a file-update method that executes a plurality of update procedures to update a file on a first recording medium ([0006], lines 6-10), storing location information showing a storage location, on the first recording medium, of data constituting a content of the file ([0006], lines 13-17), comprising the steps of:

Recording, onto a second recording medium, progress information showing which of the update procedures have been executed in updating the file ([0057], lines 1-8 disclose the process including detecting when an update to a file occurs, thus indicating the progress information of the procedures executed.);

Recording, onto the first recording medium, data constituting a content of the file after updating, in a different storage location from the data constituting the content of the file before updating ([0057], lines 1-3);

Recording, onto the second recording medium, update information showing the storage location, on the first recording medium, of the data constituting the post-update file content ([0071], lines 1-3); and

Updating, after the update information has been recorded, the location information based on the update information, so as to show the storage location of the data constituting the post-update file content ([0071], lines 3-5).

9. **Regarding claim 15,** Howard discloses a computer program for having an apparatus that includes a CPU execute file-update processing in which a plurality of update procedures are executed to update a file on a first recording medium ([0006],

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lines 6-10) storing location information showing a storage location, on the first recording medium, of data constituting a content of the file ([0006], lines 13-17), the file-update processing comprising the steps of:

Recording, onto a second recording medium, progress information showing which of the update procedures have been executed in updating the file ([0057], lines 1-8 disclose the process including detecting when an update to a file occurs, thus indicating the progress information of the procedures executed.);

Recording, onto the first recording medium, data constituting a content of the file after updating, in a different storage location from the data constituting the content of the file before updating ([0057], lines 1-3);

Recording, onto the second recording medium, update information showing the storage location, on the first recording medium, of the data constituting the post-update file content ([0071], lines 1-3); and

Updating, after the update information has been recorded, the location information based on the update information, so as to show the storage location of the data constituting the post-update file content ([0071], lines 3-5).

10. **Regarding claims 2 and 14,** Howard discloses wherein the progress information includes information for identifying whether the update information has been recorded ([0057], lines 1-8 disclose the process including detecting when an update to a file occurs and performing the update, thus identifying whether the update file has been successfully recorded.), and the file-update method further comprises the step of:

Judging, if a predetermined condition is satisfied, whether the update information has been recorded, based on the progress information, and when judged in the affirmative, updating the location information based on the update information, so as to show the storage location, on the first recording medium, of the data constituting the post-update file content ([0057], lines 3-8 and [0071], lines 1-3).

11. **Regarding claim 4,** Howard discloses the location information shows storage locations of data constituting contents of all files on the first recording medium (Inherent in [0057], lines 1-9 as the location information would be applied to all files stored, not only one.).

The file-update apparatus targets a plurality of the files for updating ([0060], lines 9-11 disclose multiple files being updated.),

The progress recording unit records progress information for each targeted file ([0057], lines 1-9 disclose the process including detecting when an update to a file occurs, thus indicating the progress information of each file of the procedures executed.).

The new-data recording unit conducts, for each targeted file, the recording, onto the first recording medium, of data constituting a content of the file after updating ([0057], lines 1-3),

The update information recording unit conducts the recording of update information, for each file that has undergone data recording by the new-data recording unit ([0060], lines 9-11),

The updating unit conducts, for each file for which update information has been recorded, the updating of location information based on the update information of the file ([0071], lines 1-3), and

The re-updating unit, if the predetermined condition is satisfied, conducts the updating of location information for each file, when judged, based on the progress information of the file, that update information relating to the file has been recorded ([0057], lines 3-9 and [0071], lines 1-3).

12. **Regarding claim 5,** Howard discloses a close instruction receiving unit operable to receive a close instruction relating to individual files that have undergone data recording by the new-data recording unit [0051], lines 1-3),

Wherein the progress information includes information for identifying whether a close instruction has been received ([0051], lines 5-8 disclose checking for error, thus determining if a close instruction was received or not.).

The updating unit conducts, for each file, the updating of location information, only after update information relating to the file has been recorded and a close instruction relating to the file has been received ([0006], lines 13-21), and

The re-updating unit, if the predetermined condition is satisfied, conducts the updating of location information for each file, only when judged, based on the progress information of the file, that update information relating to the file has been recorded and a close instruction relating to the file has been received ([0006], lines 13-21).

13. **Regarding claim 11,** Howard discloses the first recording medium is a flash memory ([0029], lines 3-5), and the second recording medium is a memory that is accessible faster than the first recording medium ([0039], lines 3-5).

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 3 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Howard as applied to claim 2 above, and further in view of Nakashima et al. (hereafter Nakashima)(US Pat. 5,930,825).

16. **Regarding claim 3,** Howard does not disclose an ID recording unit operable, before the updating of the file, to read unique medium identifier information from the first recording medium, and hold the medium identifier information within the file-update apparatus; and a re-update suppressing unit operable to read medium identifier information from a removable recording medium mounted in the file-update apparatus, compare the read medium identifier information with the held medium identifier information, and suppress the updating of the location information by the re-updating

unit if the read medium identifier information does not match the held medium identifier information.

However, Nakashima discloses an ID recording unit operable, before the updating of the file, to read unique medium identifier information from the first recording medium, and hold the medium identifier information within the file-update apparatus; and a re-update suppressing unit operable to read medium identifier information from a removable recording medium mounted in the file-update apparatus, compare the read medium identifier information with the held medium identifier information, and suppress the updating of the location information by the re-updating unit if the read medium identifier information does not match the held medium identifier information (Abstract lines 1-8 and column 7, lines 28-47 disclose preventing unauthorized access by comparing an original stored medium ID to the current medium ID. Thus, not allowing access to software or data if the IDs do not match.)

17. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Howard, by incorporating an authorization feature as in storing and comparing medium IDs, as taught by Nakashima, for the benefit of preventing unauthorized users to gain illegal access to software files and data.

18. **Regarding claim 10,** Howard discloses the location information is formed from (ii) second location information showing storage locations, within the normal area, of data constituting contents of all files in the normal area; the progress information is

formed from (ii) second progress information showing, for each file in the normal area, which of the update procedures have been executed in updating the file; the new-data recording unit ii) conducts, for each file in the normal area targeted for updating, the recording, into the normal area, of data constituting a content of the file after updating ([0057], lines 1-3); the update information is formed from (ii) second update information showing, for each file in the normal area that has undergone data recording by the new-data recording unit, the storage location, within the normal area, of data constituting the post-update file content ([0071], lines 1-3); and the updating unit conducts, (ii) for each file in the normal area for which second update information has been recorded, the updating of second location information based on the second update information of the file ([0071], lines 1-3).

19. Howard does not disclose the first recording medium includes an authentication area and a normal area that are mutually independent; a predetermined access restriction applying to only the authentication area of the two areas; the location information is formed from (i) first location information showing storage locations, within the authentication area, of data constituting contents of all files in the authentication area; the progress information is formed from (i) first progress information showing, for each file in the authentication area, which of the update procedures have been executed in updating the file; the new-data recording unit (i) conducts, for each file in the authentication area targeted for updating, the recording, into the authentication area, of data constituting a content of the file after updating, the update information is formed

from (i) first update information showing, for each file in the authentication area that has undergone data recording by the new-data recording unit, the storage location, within the authentication area, of data constituting the post-update file content; and the updating unit (i) conducts, for each file in the authentication area for which first update information has been recorded, the updating of first location information based on the first update information of the file.

However, Nakashima discloses the first recording medium includes an authentication area and a normal area that are mutually independent; a predetermined access restriction applying to only the authentication area of the two areas; the location information is formed from (i) first location information showing storage locations, within the authentication area, of data constituting contents of all files in the authentication area; the progress information is formed from (i) first progress information showing, for each file in the authentication area, which of the update procedures have been executed in updating the file; the new-data recording unit (i) conducts, for each file in the authentication area targeted for updating, the recording, into the authentication area, of data constituting a content of the file after updating, the update information is formed from (i) first update information showing, for each file in the authentication area that has undergone data recording by the new-data recording unit, the storage location, within the authentication area, of data constituting the post-update file content; and the updating unit (i) conducts, for each file in the authentication area for which first update information has been recorded, the updating of first location information based on the first update information of the file. (Column 3, lines 37-58 disclose using a recording

medium in which an authorization process is incorporated, thus disallowing unauthorized users access to the content of the recording medium. As a result, this type of area in a recording medium can be integrated with the normal area, not using predetermined access, of a recording medium in order to perform the same procedures as described above in the normal area.)

20. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Howard by, utilizing an authorization procedure in the recording medium, as taught by Nakashima, for the benefit of preventing unauthorized users to gain illegal access to software files and data when necessary.

21. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Howard as applied to claim 4 above, and further in view of Applicant Admitted Prior Art (hereafter AAPA).

22. **Regarding claim 6,** Howard does not disclose the first recording medium stores (i) FAT information showing, for each of a plurality of clusters on the first recording medium, whether data constituting any file content is stored in the cluster, and that clusters storing data constituting the content of the same file are linked, and (ii) directory information showing, for each file on the first recording medium, the first cluster storing data constituting the content of the file, the location information is formed from the directory information and all FAT information except for unused-cluster information, which is FAT information showing clusters that do not store data constituting any file

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content, the update information relating to each file that has undergone data recording by the new-data recording unit is formed from (i) consecutive-relation information showing that clusters storing data constituting the content of the file after updating are linked, and (ii) entry information showing the first cluster storing data constituting the post-update file content, the updating unit, for each file for which update information has been recorded, updates (i) the FAT information based on the consecutive-relation information of the file, so as to show that clusters storing data constituting the content of the file after updating are linked, and (ii) directory information relating to the file based on the entry information of the file, so as to show the first cluster storing data constituting the post-update file content, and the re-updating unit updates the location information by updating the FAT information based on the consecutive-relation information and the directory information based on the entry information.

However, AAPA discloses the first recording medium stores (i) FAT information showing, for each of a plurality of clusters on the first recording medium, whether data constituting any file content is stored in the cluster (page 3, lines 6-11; and page 3, line 22 - page 4, line 5), and that clusters storing data constituting the content of the same file are linked (page 4, lines 16-19), and (ii) directory information showing, for each file on the first recording medium, the first cluster storing data constituting the content of the file (page 4, lines 5-8),

The location information is formed from the directory information and all FAT information except for unused-cluster information, which is FAT information showing clusters that do not store data constituting any file content (page 4, lines 20-23),

The update information relating to each file that has undergone data recording by the new-data recording unit is formed from (i) consecutive-relation information showing that clusters storing data constituting the content of the file after updating are linked (page 5, lines 5-11), and (ii) entry information showing the first cluster storing data constituting the post-update file content (page 5, lines 18-20),

The updating unit, for each file for which update information has been recorded, updates (i) the FAT information based on the consecutive-relation information of the file, so as to show that clusters storing data constituting the content of the file after updating are linked (page 5, lines 5-11), and (ii) directory information relating to the file based on the entry information of the file, so as to show the first cluster storing data constituting the post-update file content (page 5, lines 18-20), and

The re-updating unit updates the location information by updating the FAT information based on the consecutive-relation information and the directory information based on the entry information (page 5, lines 15-17)

23. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the teachings of Howard by implementing a FAT based system and apparatus for performing file updates as taught by AAPA, for the benefit of maintaining a well-organized, uncomplicated system for updating files.

24. **Regarding claim 7,** Howard does not disclose an area-release unit operable, for each file for which update information has been recorded, to record, onto the second

recording medium, free-space information showing that clusters which stored data constituting the content of the file before updating do not store data constituting any file content, wherein the updating unit conducts the updating of the FAT information so that the free-space information is reflected in the unused-cluster information, and the re-updating unit conducts the updating of the FAT information so that the free-space information is reflected in the unused-cluster information.

However, AAPA discloses an area-release unit operable, for each file for which update information has been recorded, to record, onto the second recording medium, free-space information showing that clusters which stored data constituting the content of the file before updating do not store data constituting any file content (page 5, lines 18-20), wherein

The updating unit conducts the updating of the FAT information so that the free-space information is reflected in the unused-cluster information (page 5, lines 15-17), and

The re-updating unit conducts the updating of the FAT information so that the free-space information is reflected in the unused-cluster information (page 5, lines 15-17).

25. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the teachings of Howard by implementing a FAT based system and apparatus for performing file updates and showing free space information

as taught by AAPA, for the benefit of maintaining a well-organized, uncomplicated system for updating files.

26. **Regarding claim 8,** Howard discloses a FAT-information copying unit operable, before the updating of any of the files, to copy the FAT information on the first recording medium into a working FAT area on the second recording medium, as working FAT information ([0041], lines 1-8 disclose copying from a storage (first recording medium) information such as inodes (analogous to FAT information), to be stored in cache (RAM, second recording medium); a close instruction receiving unit operable to receive a close instruction relating to individual files that have undergone data recording by the new-data recording unit ([0051], lines 1-3 and [0075], lines 1-3); the progress information includes information for identifying whether a close instruction has been received ([0051], lines 5-8 disclose checking for error, thus determining if a close instruction was received or not.); the updating unit updates the FAT information based on the working FAT information ([0006], lines 10-17 discloses updating an inode based on working inode copy, thus being analogous to updating FAT information.); and the re-updating unit, if the predetermined condition is satisfied, (i) makes the working FAT information reflect, for each file, consecutive-relation information and free-space information that relate to the file, when judged, based on the progress information of the file, that a close instruction relating to the file has been received (, (ii) updates the FAT information based on the working FAT information, and (iii) updates the directory information based on the entry information of each file whose progress information shows that a close

instruction has been received ([0023], lines 13-15; [0041], lines 1-8; and [0052], lines 1-6 disclose the procedures being done in an analogous inode environment).

27. Howard does not disclose the new-data recording unit records data constituting post-update file content into clusters not storing data constituting other post-update file content; the update information recording unit makes the working FAT information reflect (i) the consecutive-relation information of each file for which a close instruction has been received, and (ii) free-space information that shows clusters which stored data constituting the content of the file before updating do not store data constituting any file content.

However, AAPA discloses the new-data recording unit records data constituting post-update file content into clusters not storing data constituting other post-update file content (page 4, lines 2-3); and the update information recording unit makes the working FAT information reflect (i) the consecutive-relation information of each file for which a close instruction has been received (page 5, lines 5-14), and (ii) free-space information that shows clusters which stored data constituting the content of the file before updating do not store data constituting any file content (page 5, lines 15-17).

28. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the teachings of Howard by implementing a FAT based system and apparatus for performing file updates and showing free space information

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as taught by AAPA, for the benefit of maintaining a well-organized, uncomplicated system for updating files.

29. Regarding claim 9, Howard discloses an update instruction receiving unit operable, at a time of re-updating, to receive an update instruction indicating that if the first recording medium stores data constituting post-update file content, the location information is to be updated so as to show the storage location of the data ([0057, lines 1-4 disclose an update being detected, stored in a different location, and referenced with a pointer to show the new storage location of data.)

30. Howard does not disclose the re-updating unit, if the predetermined condition is satisfied and the update instruction has been received, makes the working FAT information, prior to use in updating the FAT information, reflect for each file, consecutive-relation information and free-space information that relate to the file, when judged, based on the progress information of the file, that update information relating to the file has been recorded.

However, AAPA discloses the re-updating unit, if the predetermined condition is satisfied and the update instruction has been received, makes the working FAT information, prior to use in updating the FAT information, reflect for each file, consecutive-relation information and free-space information that relate to the file, when judged, based on the progress information of the file, that update information relating to the file has been recorded (page 5, lines 5-17).

31. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the teachings of Howard by implementing a FAT based system and apparatus for performing file updates as taught by AAPA, for the benefit of maintaining a well-organized, uncomplicated system for updating files.

32. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Howard as applied to claim 11 above, and further in view of Yoo (US Pub. 2002/0059570).

33. **Regarding claim 12,** Howard discloses the second recording medium is a RAM ([0039], lines 7-9).

Howard does not disclose the second medium has power supplied by a power source that is independent from a power source of the first recording medium.

However, Yoo discloses the second medium has power supplied by a power source that is independent from a power source of the first recording medium (Abstract lines 12-17 and [0032], lines 1-3 disclose how OS software can be reinstalled due to damage or critical error. In this installation process, the extended RAM uses an auxiliary power supply.).

34. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Howard by, utilizing an auxiliary power supply for a

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particular storage medium as taught by Yoo, for the benefit of preserving pertinent information when power is disrupted.

Conclusions

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Yaary whose telephone number is (571) 270-1249. The examiner can normally be reached on Monday-Friday, 8:00 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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